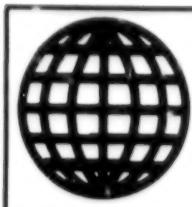


JPRS-EST-91-001
28 JANUARY 1991



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JPRS Report

Science & Technology

***Europe
Economic Competitiveness***

Science & Technology

Europe

Economic Competitiveness

JPRS-EST-91-001

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28 January 1991

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SCIENCE & TECHNOLOGY POLICY

EC: 'Green Paper' on Standardization Adopted

91AN0071 Paris *ELECTRONIQUE HEBDO* in French
25 Oct 90 p 4

[Article signed M.H.: "Green Paper" on European Technical Standards"]

[Text] Less than two years from the due date for the single market, the harmonization of technical standards is still in disarray in many areas. The persistence of widely divergent standards among EC countries has led the Brussels-based EC Commission to propose measures for speeding up harmonization. Thus, at the initiative of European Commissioner Martin Bangemann, it has just adopted a "Green Paper" on standardization.

In fact, this document is to be understood as a sort of call for a general mobilization to EC manufacturers. The basic message from the Commission to manufacturers is that standardization should be a central element in their strategies for adjusting to the vast 1993 market. Companies should not only be better informed on standardization, they should also be more actively involved in standards development. The European Commission believes that, in addition to increasing awareness, acceleration of the standardization work has become the prime imperative. Are manufacturers themselves not increasingly aware of the fact that common technical specifications are needed to produce the savings that are indispensable to ensure their technological competitiveness on the future world market? However, one has to bow to the evidence: Despite increasing demand for European standards, the standardization work is far from finished.

Admittedly, some progress has been made; the number of common standards has increased from 56 in 1983 to 870 at the end of 1989, i.e., three times the increase of the preceding 20 years. Still, the Commission, which has called for some 800 new technical standards, believes that a real boom has to be expected in the years to come. Since the single market is to be implemented within fewer than 900 days, practically one new standard should be adopted every day between now and 1 January 1993. This number does not include the 200 to 300 new standards to be created before the end of this year solely in the area of telecommunications.

The "Green Paper" has chosen some priorities which will make it possible to accelerate the harmonization process. In particular, it proposes the establishment of lines of communication among the various standardization organizations and the creation of new European-level organizations that would be coordinated by two new institutions: a European standardization council and a European office which would manage and implement the decisions made at the European level.

French Electronic Components Industry Strategies

Ministers Study Five-Year Aid Plan

91WS0057A Paris *L'USINE NOUVELLE* in French
11 Oct 90 p 30

[Article by Jean-Pierre Jolivet: "Orsec Plan For French Passive Components"; first paragraph is *L'USINE NOUVELLE* introduction]

[Text] Research-to-industry transfers and financial incentives: Sycep gives the French passive components industry five years to compete with the Japanese.

No fewer than five ministries—Industry, Research, Finance, Foreign Trade, and European Affairs—are preparing to examine a five-year plan proposed by Sycep, the professional union, to assist the French passive components industry. The sector encompasses some very scattered activities, ranging from resistors, condensors and printed circuits to connectors and key units.

The program includes the creation of geographical "centers of excellence" through research-to-industry transfers that may begin as early as the premanufacturing stage, financial incentives for research performed by European partners, especially in large Eureka-type programs, and export subsidies. At the same time, the plan provides for better coordination between suppliers and customers, in order to target the most innovative technologies and their applications.

The plan is a vital shot in the arm for the industry, which employs 26,000 people and is essentially made up of small and medium businesses. The threats are stacking up. The French passive components industry, with sales of 12 billion French francs [Fr], has only grown at an average annual rate of 7 percent over the last few years. The figure was 11 percent for the rest of Europe. It is difficult, under the circumstances, to meet the challenge of the Japanese offensive. Matsushita and Siemens formed a joint company 18 months ago. It aims to make sales of over Fr3 billion and is already marketing its first products designed for Europe. Kyocera penetrated the Old World by buying AVX, an American firm active in the European market. Nissei did the same by acquiring Arcotronics. Murata has established a factory in Great Britain.

These giants dwarf the French companies. "Of France's 230 companies, 50 account for over 80 percent of the industry's sales," remarks Hugue de Beauvais, president of Sycep. Development and industrialization costs have practically doubled with the arrival of new technologies.

This substantial handicap naturally pushes the industry toward alliances and concentrations. LCC, a Thomson-CSF subsidiary (Fr1.2 billion), is seeking foreign partners. It is not alone. Public authorities will also be obliged to take the situation into account.

A Very Balkanized Industry

Main Passive Components Manufacturers In France (sales in millions of French francs)

Framatome Connectors International (FCI)	3,500
LCC-Thomson	1,100
Philips Components	1,100
Radiall	520
Sfernica	289
Eurofarad	260
Mors Components	174

80 percent of sales are made by barely 50 manufacturers, of the 230 companies in the sector; Source: L'USINE NOUVELLE

Thomson-CSF Subsidiary Seeks Alliance

91WS0057B Paris ELECTRONIQUE ACTUALITES
in French 21 Sep 90 p 1, 23

[Article by J. Marouani: "LCC Seeks A Partner"]

[Text] The mergers seen over the last few months in passive components have led LCC, a Thomson-CSF subsidiary, to actively seek an alliance. Mr. Roger Agniel, the company's CEO [chief executive officer], has favored a move to combine companies to meet the Japanese onslaught (see ELECTRONIQUE ACTUALITES, 26 May 89 and 6 April 90 issues) for over a year. But what yesterday seemed to be the defining of a strategic plan for the industry as a whole is now a priority for LCC. Rumors of advanced-stage negotiations with several companies made the rounds this summer. As far as Mr. Agniel is concerned, they were simply "exploratory conversations" with a large number of companies and "nothing has yet been decided, still less signed." Nonetheless, the LCC CEO confirms that he is indeed seeking alliances and that no possibility has been excluded. The signing of an accord with a Japanese company, for example, has not been ruled out. Some of the sting has faded from the "shock" caused by the marriage of Siemens and Matsushita.

For Mr. Agniel, "we have no choice but to draw the lessons from the current situation and, most important, realize the very great disproportion that now exists in market shares." After the creation of the Siemens-Matsushita joint venture and the acquisition of AVX by Kyocera and Arcotronics by Nissei, the influence of European passive components companies (essentially LCC and Philips) will inevitably be diminished—unless alliances are formed.

Reaching a Satisfactory Size

LCC, which has sales of Fr1.2 billion, is modest in size next to some of its competitors, whose sales are reckoned in several billion of dollars. Moreover, the necessary R&D investments are growing ever steeper in the passive

components field. The idea of launching a large European program, as desired by Mr. Agniel, seems to have been discarded. The rocky period which the Jessi program is going through since Philips's partial withdrawal (see 7 September 90 ELECTRONIQUES ACTUALITES) will monopolize the attention of European authorities.

An alliance with another company is therefore the solution Mr. Agniel has decided upon, for the likelihood of succeeding is much greater. A merger would make it possible to achieve a satisfactory size, compared to the sector's large companies. "LCC has a very broad line of products, and we are seeking to ally ourselves with a company offering components complementary to what we make." No possibility has been ruled out, not even the sale of LCC, but it is logical to expect a joint company to be created. If the project materializes, it should take several more weeks, for it requires the prior agreement of different government authorities, notably the ministries of Finance and Industry. "For now, we have filed no request," says Mr. Agniel.

Current economic trends are not very favorable for passive components, whether in France or Korea, where LCC has set up a soft ferrites factory with Isu Chemicals, a Daewoo group subsidiary. The slump that has hit Korean industry has not spared the French company and LCC's scheduled sales do not match its initial forecasts. These different snags could well speed up the process of finding a technological, industrial, and commercial alliance...

Alcatel Strategies Discussed

91WS0057C Paris ELECTRONIQUE ACTUALITES
in French 21 Sep 90 p 1, 22

[Text] Components manufacturing in the Industries Department of Alcatel CIT is expected to grow considerably over the next five years. For each product line (hybrids, printed circuits, automated connection, steel plate work, convertors), the company has decided to create "highly efficient" units specialized in selected market niches related to telecommunications. "We must first get references from Alcatel and its subsidiaries, in France and abroad, before penetrating the outside market. That will probably take one or two years. Our ultimate goal is to split sales equally between the group and outside companies," Mr. Jean Doffagne, general manager of the Alcatel CIT Industries Department, told us during an interview. "This will require investments for certain component lines, essential to Alcatel activities: However, what we do in France must remain compatible with the European growth of the group's other subsidiaries working in other niches," he added.

The Industries Department's business volume, now Fr1.4 billion, includes a components part worth Fr800 million and vacuum-parts and equipment sales of Fr600 million.

"Our goal is to double this in five years, to reach Fr3 billion with a 60 percent share for components. This growth should be brought about essentially internally, by

adding new product lines, while still remaining centered on our present niches. With this in mind, we are strengthening ourselves technologically through a strong patents policy and through partnership agreements, either with Alcatel subsidiaries abroad, or with companies such as DuPont for printed circuits, Thomson-Cimsa for copper dies, or Burndy for connectors," explains Mr. Doffagne.

Doubled Capacity for Printed Circuits

The most significant investment now being made by Alcatel CIT's Industries Department is undoubtedly the one concerning printed circuitry, and by extension the Coutances Center. "To closely follow the extremely rapid technological changes in this area," the general manager stresses, "we are spending Fr99 million to build a very modern plant that will make our costs highly competitive and, most important, double the capacity of the Coutances factory. The latter will grow from a surface area of 60,000 square meters today to 80,000 square meters in September of 1991. Then, in a second phase, probably in 1992 or 1993, the surface area will expand to 120,000 square meters."

The expenditure is particularly heavy if the sum is compared to printed circuit sales, which today total Fr150 million, and are also expected to double in five years. It is explained, however, by the strategic importance of printed circuits for Alcatel markets. "They are typically key products for the telecommunications industry."

"Other components are also quite important," Mr. Doffagne notes. "Hybrids, for instance, which are vital in certain applications such as undersea cabling or space. In the latter case, we are working with ATES, Alcatel's space subsidiary," he says. Mr. Doffagne also counts system-12 connectors and d.c. convertors among strategic products: "In convertors," he says, "our Alcatel-AEA subsidiary, specializing in energy sources, is investing in design and engineering and is acquiring new computer equipment. These are important products for the Alcatel group; they are the basic building blocks of telephone exchanges. Our laboratory, in Malakoff, has the necessary equipment for thermal simulations." Growth in this area has been very sharp: sales, which were Fr100 million last year, should reach 150 million this year. Connector sales of Alcatel CIT's Industries Department are about Fr200 million. Finally, sales of hybrids are nearly Fr100 million.

The Industries Department, which is exhibiting its desire to further penetrate the free market, notably by participating in many expositions (it will be at the Electronica Show in Munich, from next 6 to 10 November), is firmly committed, as a top priority, to strengthening itself internally. "It is never very easy to get ratification inside the group," Mr. Doffagne explains. "Remaining competitive is a general rule to which we must conform. When Alcatel has to buy components, it calls for bids, and our proposal is compared to market prices."

No Special Concession

"We do not enjoy any special concessions," he explains. "It is, therefore, important to seek optimal productivity and invest regularly. It is, in fact, a matter of rationally exploiting our market niches," Mr. Doffagne concludes. This course must take into account components manufactured by Alcatel in other European countries. The Italians make printed circuits, the Spanish power packs, and the Germans engines, quartzes, and condensors. But it is unquestionably the Alcatel CIT Industries Department that mounts the strongest commercial offensive, says the general director.

Germany: BMFT To Reorganize Research In Former GDR

91MI0062 Bonn TECHNOLOGIE-NACHRICHTEN MANAGEMENT-INFORMATONEN in German
29 Oct 90 pp 2-3

[Text] According to Research Minister Riesenhuber, a priority objective of the next few months will be the remodeling of the scientific and research system in the former GDR. Problems to be solved include:

- Overstaffed research institutions not pursuing scientific performance objectives;
- Knowledge and equipment shortages resulting from year-long isolation from the international scientific exchange;
- Lack of technology-oriented small and medium-sized enterprises and insufficient initiative on the part of the economic sector.

In an attempt to fill these gaps and to create a modern and efficient German research structure, the BMFT [Federal Ministry of Research Technology] has drawn up an eight-item program which sums up the measures to be adopted in the framework of a technological and scientific offensive in the new Lands:

1. Establishment of equal funding opportunities in the unified Germany and immediate inclusion of the five new Lands in the BMFT's spectrum.
 - Information campaign (including 1000 funding handbooks) to make funding opportunities known to the public.
 - Provisions aimed at speeding up and facilitating the approval of support for eligible receivers in the former GDR, until 31 March 1991.
 - Establishment of project management bodies in the new Lands.
2. Active promotion of the decentralization of the Academy of Sciences and support for the development of a common research structure in the new Lands, in conformity with Article 9b of the Constitution.
 - Major participation of the federal government in the

transition funding of the former Academy's institutes until the end of 1991 (financial support will total about 800 million German marks [DM]).

- Organizational and financial support for the Scientific Council's evaluation work.
- Preparatory work toward an early extension of the agreements between the federal government and the Lands, in view of future joint funding of cross-Land institutions (Max-Planck-Gesellschaft, Fraunhofer Gesellschaft, large-scale research institutions etc.) also in the new Lands.
- As a new priority task, the BMFT's office in Berlin will be responsible for supporting the new Lands where it will contribute to the development of a new institutional research structure.

3. Opening to European and international cooperation, on the basis of past cooperation with the DRG and Eastern countries; new opportunities for scientific competition.

As a result of unification, scientists from the new laender can take advantage of all the federal government's programs and mechanisms for the support of science. In addition to this, they have unqualified access to European and international research programs and projects, including especially:

- participation in EC programs;
- involvement in EUREKA [European Research Coordination Agency] projects;
- participation in the international exchange of scientists;
- access to large-scale European research installations, such as those of CERN [European Nuclear Research Center] in Geneva and ESO [European Southern Observatory] in Munich or to the European Space Agency's (ESA) projects.

4. Modernization of the economic sector in the five new laender through targeted infrastructural measures, for example:

- support of the development of technology centers, e.g., Rostock-Warnemuende, Schwerin, Dresden;
- demonstration and transfer centers, for example for production technology (Chemitz, Dresden, Magdeburg, Wismar) or for material research (Dresden and Halle);
- model testing and consulting services on innovation in eight Chamber of Industry and Commerce in cooperation with West German Chambers, Chemitz-Aachen, Potsdam-Bonn, Erfurt-Frankfurt a.M., Dresden-Hamburg, Halle/Magdeburg/Leipzig-Karlsruhe, Rostock-Kiel.

5. Technology-driven economic recovery through special programs and projects.

- Support of research personnel increases: funding of the R&D hiring costs incurred by companies with a staff of less than 1000.

- Contract research and development: funding of R&D contracts subcontracted to external parties by companies with less than 1000 employees.

- Technically oriented company program: funding of technology-oriented new businesses.
- Support of important pivotal technologies, such as microelectronics, laser technology and biotechnology.

6. Call on the West German economy to set aside 5 percent of its R&D budget for projects in the new laender.

The recent appeal launched by the Federal minister of Research and Technology, and approved by the industrial sector, would attract DM2 billion in investment and also safeguard half of the present market-oriented R&D potential. This investment would also benefit individual West German enterprises.

7. Targeted funding of life quality-related sectors, such as environmental technology, health care and climatic research, with a view toward improving the quality of life.

- Ecology research: joint initiatives for the development of ecology-oriented reconstruction projects in the densely populated area Leipzig-Halle-Bitterfeld; reconstruction project for the River Warnow. Joint projects may promote the development of ecosystem research centers
- Environmental technologies: for example a mobile measuring system for the detection of air pollutants in industrial areas or projects demonstrating the treatment of highly polluted water to produce drinking water (Halle).
- Health research: increased BMFT funding of the German Research Association's program Clinical Research Groups; preventive medicine and equipment grants.

8. Safeguard of our cultural heritage's future

New technologies of and methods must be developed if our common cultural heritage is to be safeguarded - for example the large number of badly damaged architectural monuments in the DRG. Humanist disciplines will be given greater dignity. On this basis, feasible projects, freed from any ideological connotation, will be eligible for long-term support.

The package of measures, many of which are program proposals put forward by the coalition parties, include projects for the establishment of demonstration centers, pilot projects for the reclamation of small rivers or abandoned polluted areas and measures aimed at preserving and improving existing buildings. According to Rieserhuber, "Next year will be a year of great efforts and massive restructuring both for those directly involved in research activities and for the people who are responsible for research policy in the government and in the old and new laender. What we need is an adequate

financial framework for public R&D budgets and above all initiative on the part of the scientific and economic sectors."

German Research Association Announces 26 New Programs

91M10095 Bonn TECHNOLOGIE-NACHRICHTEN MANAGEMENT-INFORMATIONEN in German
14 Nov 90

[Text] The German Research Association plans to establish 26 programs with 68.4 million German marks [DM] total financing. In addition to four humanities and social science programs, seven major programs on biology and medicine will be established: "Virulence Factors and Host Tropism of Animal Viruses," "Molecular Bases of Plant Evolution," "Molecular Phytopathology," "Properties and Functions of Glia Cells," "Genetic Factors in Psychiatric Illnesses," "Physiology and Theory of Neural Networks," and "Muscle Research."

Six new major programs will be established in the natural sciences: "Algorithmic Number Theory and Algebra," "Rapid Molecular Processes in Liquids," "Basic Principles of the Impact Effects of Aviation and Space Travel on the Atmosphere," "Dynamic Fermions," "Pseudosymmetrical Crystals," and "Experimental Studies in Element Divisions."

There are nine new programs in the engineering sciences: "Optical Signal Processing," "Extremely High-Temperature Resistant Lightweight Structural Materials," "Extremely Fine Solid Particles—Production, Classification, Separation, and Measurement," "High Temperature Corrosion," "Object-Oriented Modeling in Planning and Construction," "Beam-Material Interaction During Laser Processing," and "Electromagnetic Compatibility of Modern Power Engineering Systems."

The new program, "Basic Principles of the Impact of Aviation and Space Travel on the Atmosphere," will examine the factors necessary to evaluate the impact of aircraft and space systems on the atmosphere. This study became necessary as a result of the increase in air traffic, plans to build hypersonic aircraft, discussions on the use of hydrogen-powered engines, rocket launches, and findings regarding global climate changes. The program provides for interdisciplinary cooperation between atmospheric and engineering scientists. The German Research Association is already sponsoring four special research programs in related fields: "Basic Principles of Spacecraft Design" at Aachen, "Transatmospheric Flight Systems" at Munich Technical University, "Supersonic Aircraft and Space Transporters" at Braunschweig Technical University, and "High Temperature Problems of Recoverable Space Transport Systems" at Stuttgart University. The studies planned in the new program will emphasize atmospheric research.

The meeting also decided to extend seven major programs, including "Human Genome Analysis Using Molecular Biology," which it has been sponsoring since

1985. As of 1991, the program will receive a total of DM25 Million in subsidies for an additional five years from the Federal Ministry of Research and Technology's special fund.

Germany: Summary of 1990 Juelich Research Center Report

91M10070 Duesseldorf HANDELSBLATT in German
15 Nov 90 p 28

[Text] Duesseldorf, 14 Nov 1990—The Juelich Research Center (KFA), which is one of the 13 major research institutes in the FRG and has a staff of 4,700, describes its function as contributing toward identifying urgent, fundamental problems at an early stage, maintaining and improving the environment and living conditions, drawing up solutions to technical problems, promoting the FRG's competitiveness in modern technologies, and enhancing knowledge about the complex interrelations in our world.

Its reconfigured research program centers on man and his basic needs: energy, health and the environment, substances and materials, and information. These central topics are reflected in four key programs that will become the KFA's figurehead in the nineties. They are designed to contribute to:

- developing options for long-term, environment-friendly energy supplies for the steadily increasing world population;
- identifying threats to the environment and to health at an early stage and averting them;
- learning about the structure and properties of the substances at our disposal and using this knowledge to create materials for a number of technologies; and
- developing a technology for processing and exchanging our constantly increasing wealth of knowledge and information.

Complex Technical and Sociopolitical Questions

The four key programs overlap at several points and are interactive. Moreover, solving the increasingly complex technical and social questions requires interdisciplinary cooperation. An important example in this respect is climatic research, which requires the interaction of energy and environmental research with all their diverse specialities. Then there are the social and economic aspects to be taken into consideration. Organizing and practising this type of interdisciplinary cooperation among physicists, chemists, biologists, medical researchers, engineers and technicians, and social scientists is both a tradition and a constantly recurring challenge at the Juelich Research Center.

This is particularly the case in medical research, where the metabolism that takes place in the heart and brain can only be investigated if the chemists provide the medical researchers with the radioactive drugs needed. Besides, the signals from inside the body must be physically detected and electronically processed. Even cooperation between disciplines as different as reactor engineering and biotechnology has already proved fruitful, as in the question of the flow patterns in a large bioreactor or the construction of solar powered stirrers for sewage tanks.

Two Million German Marks for East German Projects in the Next Two Years

Since the opening of the borders between the former GDR and the FRG in November 1989, the Juelich Research Center has strengthened its existing contacts and initiated many joint projects. The focus lies with solid state research, basic physical and nuclear research, nuclear fusion, environmental research, biotechnology, and radiation protection.

It goes without saying that the KFA's cooperation with research groups in the new FRG Lands cannot be of a blanket nature; it can only be extended selectively to individual, highly qualified research teams working on topics relevant to the KFA's research and development program. The KFA currently has more than 60 co-joint projects, about 40 of which have taken concrete shape since April 1990. The KFA places research contracts with outstanding teams against payment of a fee under about 20 of these projects. This will bring recognition for the capabilities of these teams and enhance their scientific potential.

A total of DM2 million will be invested in these projects in 1990 and 1991, on average about DM100,000 per subsidized group. Scientist posts are only half or one-third funded on purpose; this means that, with annual salaries plus social security contributions amounting to about DM20,000 to DM25,000, approximately 100 to 120 scientific employees from eastern Germany will be involved in cooperation contracts with the KFA. In this way, a considerable scientific potential will be trained, motivated, and funded at relatively low cost. The KFA's cooperation with these groups is heavily concentrated in the East Berlin and Dresden areas; this more or less reflects the distribution of the new FRG Lands' research capacity.

Netherlands: University Research Structure Analyzed

91AN0073 Paris LA LETTRE EUROPEENNE DU PROGRES TECHNIQUE in French 18 Oct 90 p 2

[Article: "University-Industry Relationships in the Netherlands"; summary of a study by M. Girod and M. Verspyck of the French Embassy in the Netherlands, Smidplein 1, 2514 BT The Hague]

[Text] If, following the example of other European countries, links between universities and companies are clearly improving, this is due to so-called "mobilizing programs," involving both researchers and academics, and to increasing R&D expenditures by the private sector.

The transfer of knowledge from the universities to companies (law on universities, as revised in 1986) has indeed become a priority in the Netherlands. Thus, since 1982, the Ministry of Economic Affairs has been conducting "mobilizing programs" with a total budget of 35 million guilders (105 million French francs [Fr]) per year. These programs are 50 percent financed by the government and developed jointly by researchers and companies. The laboratories, which are selected as a result of competitive bidding, receive 90 percent of this budget. They in turn undertake to provide financing equivalent to the subsidy received.

Moreover, the government's financial disengagement has led to an increase in the number of research contracts concluded between universities and public and private companies. These contracts currently represent over 25 percent of university research funding and are estimated to amount to 350 million guilders (Fr1 billion). Science and technology are the main beneficiaries, with 40 percent of research contracts with private companies being concluded in this area. In 1987, the equivalent of 3,800 full-time university employees were involved in all the contracts, i.e., almost 20 percent of all university personnel.

Dutch scientists readily move from universities to private companies (and vice versa); even university presidents often come from the private sector. This mobility means that 20 percent of all professors work professionally in a company, since part-time work is being encouraged.

The best Dutch research organizations cooperate more and more closely with major companies, which contribute more than 60 percent of overall R&D expenditure. For instance, the five Dutch multinationals—Shell, Philips, Unilever, Akzo, DSM—earmark about 20 percent of their R&D budget to basic research. Such a percentage is not equaled in any other country except Japan.

Obvious indicators of successful cooperation are the increasing numbers of "interface" centers, such as technology transfer centers, "breeding grounds" for new companies, and science parks, which are generally located near the main universities.

[Boxed item]

R&D in the Netherlands

Public and private R&D expenditure in 1990 amounts to 11 billion guilders, which represents over 2 percent of gross domestic product.

Sixty thousand persons are involved in R&D (research staff and other), i.e., 1.1 percent of the Dutch working population.

Dutch university research is financed by the government, the Dutch Scientific Research Organization (NWO) (the equivalent of the French CNRS), and by its own revenues (contracts concluded with companies).

There is no "elite school" system [as in France], but there are advanced technical institutes (HBO) that are the equivalent of French University Institutes of Technology (IUTs).

CORPORATE ALLIANCES

Germany: Japanese CIM Company Founds Subsidiary in Leipzig

91M10084 Duesseldorf HANDELSBLATT in German
20 Nov 90 p B9

[Article by Andreas Gandow: Machine Tool Manufacturers Want To Conquer Eastern European Markets From Leipzig"]

[Text] The Yamazaki Mazak Corporation, one of the world's leading manufacturers of machine tools, processing centers, and computer-aided, integrated manufacturing (CIM) systems intends to found a sales company in Leipzig for East Germany and other central and eastern European states before the end of this year. At the same time, it will expand its engineering and development capacity in Germany and begin cooperation with German universities. However, no decision about a production facility in continental Europe will be made until next year, as president Teruyuki Yamazaki explained in a conversation with HANDELSBLATT.

According to a Japanese credit information service, the Yamazaki Mazak Corporation, which is not listed on the stock exchange, has revenues of 33 billion yen (up 40 percent, about 410 million German marks [DM]) in fiscal year 1989 (to 30 September), with a pretax profit of 2.9 billion yen (about DM36 million). Yamazaki added that the revenue of the entire group, which, in addition to Japan, has long had production facilities in the United States (monthly production around 120 NE lathes and machining centers) and Great Britain and will have others in the future in Singapore and France (machine components, production starting in 1991), is about four times this figure, something like \$1.2 billion.

Revenues To Be Doubled

The production range of the group, with its 3,800 employees worldwide, stretches from CNC [Computer Numeric Control] tools and laser machines, handling robots, hole punching machines, shearing machines, folding presses and processing centers (FMS [flexible manufacturing systems]) to CIM and CAD/CAM [computer-aided design and manufacturing] systems. Since the company split from Fanuc, the numerical control

systems have been made independently, so that the specific performances developed for the machines can be fully exploited.

Last year's revenues are expected to double during the current five-year plan (1989 to 1993), said Yamazaki: First, the range of the machine tools available will be expanded to take account of both the applications foreseen for future processing tools (such as lasers of various types and diamonds) and the materials that can be processed (steel, concrete, and other special new materials). The second aim is to build up a comprehensive technical consulting service for the customer and to supply turnkey systems.

Next Year in the European Market Too

The range of hardware and software is backed up by management consultancy services whereby the customer can use a computer-aided simulation model to review a wide variety of external conditions in order to optimize investment decisions on a given processing system both technically and financially.

Yumazaki announced that this consulting service, which forms an integral part of the corporate marketing concept and was first presented this year in Japan in what is called a "Techno-Plaza", will also be available on the European market as of next year. The requisite software is currently being developed. The core idea of this application is to integrate technical and management components in a flexible decision-making model to enable the customer to arrive at decisions on the various levels more quickly. Yamazaki added that sound business decisions to invest in CIM systems for manufacturing a wide range of products in small runs, even in an environment posing economic problems, could thus be taken.

In the group's foreign business (approximately DM1.2 billion), an exceptionally heavy reduction in demand is evident in the United States. According to the American National Machine Tool Builders' Association (NMTBA), U.S. manufacturers received orders for \$260 million in September, 13 percent less than last year, and the \$2.2 billion revenues earned from January to September 1990 represented a one percent drop as compared with the same period last year. The value of contracts declined to \$1.6 billion by the end of September 1990, 27 percent less than the previous year. On the other hand, Yamazaki expects demand in Europe, where he puts the group's overall 1990 revenue at DM600 million, to remain stable or even increase.

Yamazaki explained that the group's medium-term plan for expanding its market presence in Europe (including the Soviet Union) to sales of between DM0.8 and 1 million by 1993 includes the points set out below.

A Plant in Germany Soon?

A trading company will be established before the end of this year in eastern Germany with German trading

partner Ernst Haaf Praeziwe Trading Company mbH of Nuernberg, which is currently building a production facility of its own for vehicle components and special machines near Leipzig.

This joint venture (the German subsidiary, Yamazaki Mazak GmbH of Goepingen, will hold 60 percent of the stock) will also compete in the markets in other central and eastern European countries.

While production in the British plant (currently 80 to 100 units per month) is due to increase and a machine component plant will start operations in France in the fall of next year, studies on the building of another plant in continental Europe have not yet been completed. Nevertheless, Germany is the group's most important market in Europe, Yamazaki explained, which argues for a German location.

Yamazaki intends to approve the establishment of technical centers with R&D and sales engineering functions to promote further business expansion in Europe. In addition to Great Britain and France, there are plans to open this sort of service center in Germany as well. To this end, Yamazaki had talks recently with university research institutes, Berlin, Aachen, and Stuttgart included, and is considering future cooperation. Yamazaki said that the technical and scientific level is noticeably higher than in comparable institutes in Japan and that cooperation with European engineers and scientists makes more sense than, for example, buying up a European manufacturer.

Finally, in view of the relaxing of the Cocom restrictions, an expansion of cooperation with the Soviet Union at a higher technical level is also planned. Yamazaki does not rule out the establishment of a joint venture in the Soviet Union.

Yamazaki is confident that he can carry out his ambitious expansion plans in Europe. He says that the company is way ahead of its European competitors in terms of productivity and profitability; it has not developed into a specialized machine tool manufacturer, nor does he want it to in the future. Its high profitability first creates the conditions for massive modernization investments, high R&D expenditure, and comprehensive marketing activities. Yamazaki put the current annual R&D budget at about DM120 million, or about seven percent of revenue. Major research projects include CO₂ laser applications, the use of new ceramic materials, sensor engineering, applications of extremely high-pressure water, the development of spindle engines, and CAD/CAM manufacturing systems.

Italian, Japanese Space Agencies Discuss Collaboration

NASDA Visit

91M10053A Rome SPAZIO INFORMAZIONI
in Italian 10 Oct 90 pp 3-4

[Text] A delegation of experts from Japan's National Space Development Agency (NASDA) will arrive in Italy

within the next few days for a round of meetings and visits. The delegation headed by NASDA's executive director, Dr. Akira Kubozono, will remain from 15 to 17 October. The first meeting at the Ministry of Universities will involve talks with Under Secretary Learco Saporito, the directors of the Ministry's International Relations Office and Space Office, Mario Bova, and Franco Mazzuca respectively, the president of the Italian Space Agency (ASI), Professor Luciano Guerriero, and other experts. Subsequently, ASI and NASDA representatives will meet to review the activities of the joint working team which is currently evaluating possible areas of bilateral cooperation. The Japanese delegation will then visit BPD Difesa e Spazio at Colleferro (Rome), Selenia Spazio at L'Aquila, Telespazio's space telecommunications center at Fucino (Avezzano) and, probably, Aeritalia's Space System Group in Turin. Dr. Kubozono—who will be accompanied by experts from the microgravity, telesurveying, space transport systems of the future, and robotics industries—will thus have the opportunity to better evaluate Italy's expertise in the space sector with a view to future cooperation. In fact, these are the first contacts on space activities between Italy and Japan (following a visit to Japan by an Italian delegation and a subsequent meeting held at the Farnborough fair). Therefore, the parties will need to further discuss their respective "requirements" to promote a forthcoming bilateral cooperation that will eventually be based on an intergovernment and interagency agreement. Italy appears to be considerably interested in establishing such agreements, since areas of common interest are likely to be found in sectors such as space sciences, telecommunications, and telesurveying.

Areas of Interest

91M10053B Rome AIR PRESS in Italian
24 Oct 90 pp 25/4

[Text] Microgravity, earth observation, space transport (Hermes and HOPE [H-II Orbiting Plane]), space robotics: These are the four possible areas of cooperation singled out during a meeting held in Rome between the Italian Space Agency (ASI) and representatives from Japan's NASDA. This was the first unofficial meeting for the joint Italian-Japanese working group which was established during a recent visit to Japan by a delegation from the ASI and Italian space industries.

The next meeting will take place in Japan early in 1991, at a conference on Japan's JEM [Japan Experimental Module] international space station module and on astronaut training. At that time, ASI will present NASDA with more detailed proposals (including industrial cooperation) that can be implemented within the framework of the Italian-Japanese scientific cooperation agreement. In the meantime, the ASI will award a Japanese researcher with a scholarship to conduct microgravity research in Italy.

European Electronics Firms Form Economic Interest Group

91WS0060A Paris *ELECTRONIQUE ACTUALITES* in French 12 Oct 90 p 22

[Article by J. Marouani: "CP Electronique, Hunter and Sinus Create a European Consortium"]

[Text] The French firm CP Electronique, the English company Hunter, and the German firm Sinus Electronic, all three distributors of electronics components, have just signed an agreement to form a EEIG (European Economic Interest Group). The companies, which have respective sales of 30 million French francs [Fr], FR27 million, and Fr40 million, will be united in a new entity dubbed Egitronic. The European EIG is headquartered in the suburbs of London; its president is Mr. Mike Ward, president of Hunter, and its vice-president is Mr. Albert Cohen, president of CP Electronique. It may be open to matches with other companies from non-EC European countries (Sweden, Switzerland, Austria...): A legal measure being drafted would allow the inclusion of candidates from those countries.

The creation of Egitronic should enable the three companies involved to battle "on equal footing" with the other big European or worldwide distribution groups, just a few years before the opening of the borders in 1993. The financial and organizational resources of each of the members will be combined in the EIG; however, the three members will retain some independence and operational flexibility. A company, for instance, can decide against distributing a board chosen by the group because of its own prior commitments.

Mergers: Manufacturers Expect Them

Egitronic is responding to an expectation of manufacturers, particularly American ones, which tend to entrust distribution of their products to multinational companies with European, even worldwide, networks. They want to market their products across a fairly vast region. Indeed, the solution is particularly effective for companies without a firm foothold in Europe. In seeking new suppliers for instance, a single representative of the EEIG will discuss legal aspects of the agreements on behalf of all the members. This will give him more negotiating power. Purchases will be combined and stock centralized at the site of the biggest user.

What links the three companies which created Egitronic is their common American supplier: GSI. GSI, you will remember, created the "Transzorb" concept, an avalanche diode to protect electronic circuits against transient disturbances caused by lightning, power plant-generated electromagnetic surge voltages, magnetic waves triggered by core explosion, and so on. CP Electronique also distributes ABB Hafo (opto-electronic couplers, fiber-optic emission diodes), Pendar (lightning protection fuses, key units) and MEDL ("Tracker Balls"), to name only its key products. Like its English

and German partners, the French company has "REP" status with stock or, in English, "stocking REP."

France: Alcatel Espace, Aerospatiale To Collaborate

91WS0075B Paris *LE MONDE* in French 5 Dec 90 p 24

[Article by F.V.: "Alcatel Espace and Aerospatiale Clarify Their Relationship"]

[Text] On Monday December 3, Alcatel Espace and Aerospatiale signed a "technical, industrial, and commercial cooperation" agreement in the field of satellite technology, thus placing the pair in second place in the industry worldwide, after America's Hughes, with a sales figure approaching 3.5 billion French francs.

The two groups had begun talks of an eventual amalgamation a year ago. Though such plans were encouraged by the PTE [Posts, Telecommunications, and Space] Minister, they finally fell through due to the question of industrial leadership and the Framatome affair.

The two manufacturers abandoned the amalgamation scheme and then announced a less ambitious agreement, though no less "muscular" in the words of one of them, for it will enable them to speak with a single voice in their field (which includes both telecommunications and civilian and military observation satellites). In effect, says the ministry, it "will allow the two companies to make joint bids, to coordinate their product policies, to harmonize their investments, to benefit from the overseas establishments and international sales networks of both, and to conduct joint research programs."

The two companies use their talents in complementary fields and are already used to working together. But a clarification of their relationship was anticipated: One month ago, along with Italy's Alemania (the result of the amalgamation of Selenia and Aeritalia), they in fact concluded a protocol of intent to participate in the capital of America's Space System/Loral (Le Monde, 24 October).

CLTO, FOI Regroup To Become Alcatel Fiber Optics

91WS0106C Paris *ELECTRONIQUE ACTUALITES* in French 26 Oct 90 p 25

[Text] The CLTO and FOI companies, subsidiaries of the Lyon Cable Company, are pooling their expertise to become Alcatel Fiber Optics. The merger of the two firms creates a company whose sales will total 240 million francs [Fr] this year. The staff of 400 (nearly half of whom are engineers and technicians) will be divided among three establishments.

The first is located in Bezons, in Val d'Oise. It sports a research and development center for fiber optics, a production plant that will manufacture chiefly undersea fibers, and a joining and measurement systems division.

It is also the site of the new company's headquarters and of the CLTO systems division (local networks, extended site communications, wire networks).

The second plant is located in Conflans Sainte-Honorine (multi-mode, monomode, and special fibers). Finally, a third factory, under construction, will be put into operation in the second half of 1991. It will specialize in the mass manufacture of monomode fibers. Its annual capacity will be greater than 400,000 km/year.

Alcatel Fiber Optics will have total productive capacity of 500,000 km/year. R&D work (10 to 15 percent of sales) will be carried out in collaboration with the Marcoussis laboratories, the current research organization of the CGE (General Electricity Company). The president of Alcatel Fiber Optics is Mr. Michel Rousseau. He is also the director of the high-frequency and electronics department of Lyon Cable Company.

Dassault, GEC-Marconi, Selenia To Collaborate on Guidance Systems

90WS0109A Paris AFP SCIENCES in French
29 Nov 90 p 19

[Article in the "Data Processing/Electronics" column: "Electronics/Defense/Europe Missiles: Cooperation Agreement Among Dassault Electronique, GEC-Marconi, and Selenia"]

[Text] Paris - The manufacturers Dassault-Electronique, GEC-Marconi (Great Britain), and Selenia (Italy) have signed an agreement of cooperation on the development, production and marketing of electromagnetic guidance systems for missiles and drones (pilotless aircraft). Dassault indicated in a communique on 26 November.

By exchanging technology, the three groups want to obtain "the best technical results, eliminating useless duplication of effort (...) and strengthening standardization and interoperability within the Allied armed forces." This cooperation could be extended to other companies in the missile equipment field, the communique specified.

This agreement on electromagnetic guidance sections follows the Franco-Italian agreement on the FSAF (Future Surface-to-Air Family) missile systems program, which included the development of the Aster missile, equipped with a guidance section developed by Dassault Electronique and Selenia together.

The agreement depends just as much on the collaboration between Dassault Electronique and GEC-Marconi for all the active anti-air guidance sections, including the electromagnetic guidance of the MICA missile.

Germany: Schneider Affiliate Buys France's Transrack

91WS0106B Paris ELECTRONIQUE ACTUALITES
in French 19 Oct 90 pp 1, 17

[Article by J. Marouani: "Merlin Gerin Buys Transrack"]

[Text] Merlin Gerin, a subsidiary of the Schneider group, has just fully bought out Transrack, the top French manufacturer of electronic casing (cases, racks, and modular equipment) for an undisclosed sum. It will fold it into its "low-voltage systems" division, which already includes plants for manufacture of electrical control boxes and switch covers. Merlin Gerin believes the acquisition will enable it to broaden its line. Indeed, incorporators are turning increasingly to electronics. As for Transrack, it sees the Schneider group subsidiary as an industrial partner who can give it European heft and realize the ambitious goals it set for itself 18 months ago. The firm planned to double sales, boosting them from 174 million francs [Fr] in 1988 to Fr300 million between now and 1992, 30 percent from exports (see ELECTRONIQUE ACTUALITES, 24 March, 1989). During its last fiscal year, sales totaled Fr200 million (Fr30 million outside France) with a staff of 400.

Transrack: Number Four on the European Market

Merlin Gerin's low-voltage systems was one of the low-voltage divisions that produced 43 percent of the company's total sales in 1989.

Sarel, a subsidiary three-quarters of whose activity involves cabinets and impervious switch covers, and Merlin Gerin Alps (cases and low-voltage equipment) belong to that division.

Decisions on Transrack's development should be made within two months.

Until now, Transrack has been 60 percent owned by investors and 40 percent owned by its founders. It has three foreign subsidiaries, in Germany, Great Britain, and Spain (a minority stake of 30 percent), but its international activity is still relatively modest (exports currently account for 15 percent of business). Transrack will therefore probably seek to grow in that area.

Nonetheless, the company now ranks fourth in Europe, after two German companies and one English one.

Schroff, which was bought last year by the steelmaker Hoesch, is the industry leader with sales of Fr750 million; it is followed by Rital and BICC Vero Electronics.

The total European market "weighs in" at about Fr2.5 billion (including Fr700 million in Germany alone).

Germany, Italy Cooperate In Gas Turbines Construction

91M10083 Duesseldorf HANDELSBLATT in German
19 Nov 90 p 16

[Text] Milan, 17-18 November (Handelsblatt)—After lengthy, and vain, attempts by the three Italian licensees for electricity-generating gas turbines, Ansaldo (state-owned IRI [Institute for the Reconstruction of Industry] group), Nuovo Pignone (state-owned ENI [National Hydrocarbons Corporation] group), and Fiat to reach an agreement, Ansaldo has now come to an agreement with the Siemens-owned firm, Kraftwerk Union.

This provides for a first phase in which Ansaldo is awarded both a full license for gas turbine construction and a German-Italian production agreement, and a second phase in which a fifty-fifty joint venture will be established.

Ansaldo S.p.A. of Genoa has long been producing boilers, generators, steam turbines, and other components for power stations, but is interested in breaking into the gas turbine market, which offers wide scope for development. Nuove Pignone S.p.A. of Rome, which belongs to ENI, [IRI's] sister company for energy, is already active in this field with a license from General Electric.

The New Team Does Not Intend To Displace Anyone in Italy

Talks between the two state-owned companies broke down in recent weeks because Nuovo Pignone wanted to keep Ansaldo in a minority position, only allowing it to produce a few components. As Fiat holds the Westinghouse-Mitsubishi concession in the gas turbine field, and in any case the General Electric license to Nuovo Pignone does not include the rotor, which is granted to Alsthom, Ansaldo turned to Siemens.

Under the new agreement Ansaldo will first build and operate all energy-generating components of gas-driven power stations using Siemens designs and technology. The second phase provides for comprehensive cooperation in developing, constructing, and exploiting both sides' gas turbine capabilities.

The new Ansaldo-Siemens team does not intend to displace anyone on the Italian market. This means that Fiat and ENI-Nuovo Pignone will continue to supply gas turbines to the state generating company, ENEL. Much more interesting is the international market, where Ansaldo and Siemens are currently direct competitors for a major contract in the Soviet Union.

The deal in the Soviet Union was behind the unusually fast agreement about cooperation. On Monday, the IRI group and Siemens will probably sign a major contract to modernize 16 large turbogas power stations in Moscow. The industry predicts that the world market, estimated at five billion German marks [DM], will increase by 40 percent in the coming decade.

Ansaldo, whose facilities in Genoa are underexploited, can profit from the agreement with Siemens in this field, which, according to Siemens manager Hans Hirschmann, suffers from a shortage of capacity.

For its part, Siemens is establishing a close relationship with the IRI concern, and this offers the Munich company additional prospects for cooperation in the fields of energy generation, railway technology (electric locomotive construction), and semiconductors. While the Christian Democrats and Communists welcome the agreement, the Socialists talk of a "return to cannibalism among state-owned corporations."

Germany: Federation of AI Research Institutes Established

91M10071 Duesseldorf HANDELSBLATT in German
15 Nov 90 p 28

[Article by Werner Kunz, "Common Research on Knowledge-Based Systems"]

[Text] The Association of German Artificial Intelligence Institutes (AKI) was established in Stuttgart in early October 1990. Through it, the five major, publicly subsidized German research centers in the field of artificial intelligence/knowledge-based systems propose to intensify their cooperation and improve coordination.

The AKI was formed by the Bavarian Research Center for Knowledge-Based Systems (Forwiss), headquartered in Erlangen, Munich, and Passau, the German Research Center for Artificial Intelligence (DFKI) in Kaiserslautern and Saarbrucken, the Research Institute for Applications-Oriented Knowledge Processing (FAW) in Ulm, the Research Association for the Application of Artificial Intelligence in North Rhine-Westphalia (KI-NRW) in Bonn, and the Laboratory for Artificial Intelligence (LKI) in Hamburg. FAW Institute Director, Professor F. J. Rademacher, is the AKI's first spokesman.

The five institutes are partially subsidized and sponsored by the government and partially by the private sector. They propose to offer an important instrument for maintaining the FRG's competitiveness in a group of topics that are of central significance to the accumulation of knowledge and thus to the promotion of broader technical progress. In this connection, the institutes' work is complementary to that of other research groups and institutes in the field of artificial intelligence (universities, special research programs on artificial intelligence, GMD, [Mathematics and Data Processing Association], FhG [Fraunhofer Society]).

Mixed Financing With State and Private Funds

In the AKI's five research institutes, nearly 200 scientists are currently working on about 50 projects. Some of these scientists come from the participating companies or are delegated personnel from cooperating companies or authorities. A characteristic element is a specific contribution of state and private funds in the project

financing, contract projects being handled in addition to several basic research and precompetitive projects.

The range of subjects dealt with by the AKI institutes extends from fundamental problems in the area of knowledge processing, neural networks, and autonomous robot systems, to applications-oriented developments. This includes, for example, advisory systems in the service sector, diagnosis or control systems in manufacture and in transport, and intelligent decision-making aids, for instance, in environment information technology.

Swiss/Swedish ABB Acquires U.S. Robot Manufacturer

91WS0060B Paris *L'USINE NOUVELLE* in French
4 Oct 90 p 50

[Article by Didier Gout; first paragraph is *L'USINE NOUVELLE* introduction]

[Text] The test of strength shaping up between ABB, the top world manufacturer, and the Japanese should trigger a wave of mergers in European robotics.

Is there still a large, American generalist robot maker? The purchase of the robotics division of Cincinnati Milacron by the Swiss-Swedish group ABB is a sign. It strips the United States just that much more. Indeed, if one excepts robots made by GMF (an American-Japanese joint venture between GM and Fanuc, but which manufactures in Japan), America is practically "devoid" of big generalist robot producers. With the absorption of Cincinnati Milacron, the third-largest manufacturer on the American market (with 35 million dollars in 1989), the top robot manufacturer, Adept, ranks only fifth in its own market (with 26 million dollars).

The purchase is also another sign: "The sign of a wave of mergers that should submerge the European robotics industry in less than five years," says Arnauld Laffaille, director of Afri, the French Association of Industrial Robotics.

By buying Cincinnati, ABB has stepped up its presence in the United States. It is also expanding its line, thanks to Cincinnati's welding robots, and achieving a critical size. With 21.6 percent of the world market, it is big enough to cover the ever-growing research costs (it takes 150 million French francs to develop a robot) and to develop integrator networks. This new size consolidates ABB's position as the number-one challenger of the Japanese. The latter are the undisputed leaders with 40 percent of the American market, up 76 percent, and three manufacturers (Yaskawa, Toshiba, and Kawasaki) among the top six in the world. In Europe, ABB's new dimension is going to encourage producers to sign agreements. "How can generalist producers who make one robot in the time it takes the Japanese to turn out 10 continue to stay in the race?", asks Arnauld Laffaille. "And when the same Japanese manufacture mechanical workings three times cheaper than theirs!" adds a specialist.

Renault Automation is very aware of this challenge (as is the German Kuka and the Italian Comau). "First of all,

we are beginning to use Japanese mechanisms. Next, we are seeking a partner," confides an official of Renault's subsidiary.

Partnerships strike many as a solution still too tied to the national markets of those companies. But it is not the only solution! "They could ultimately abandon manufacturing to become robot integrators, whether of ABB or Japanese robots," says Guy Fages, of the AXES ROBOTIQUES magazine.

No solution should be ruled out. But the clash that is shaping up between ABB and the Japanese henceforth favors mergers among European robotics companies. Especially as the orders now on the books of several makers are not much cause for optimism.

Japanese Supremacy

Makers	Market Percentage
1. ABB (Switzerland/Sweden)	17.4
2. Yaskawa (Japan)	8.6
3. GMF (United States, Japan)	7.0
4. Toshiba (Japan)	4.9
5. Carl Cloos (Germany)	4.9
6. Kawasaki (Japan)	4.6
7. Cincinnati Milacron (U.S.)	4.2
8. Nachi-Fujikoshi (Japan)	3.9
9. Kuka (Germany)	3.0
10. Hitachi (Japan)	3.0

In a very balkanized market, ranking of the ten top world robot makers shows the very clear domination of the Japanese.

1987 Figures for market share. Source: Dataquest

CORPORATE STRATEGIES

Telecommunications Firms Urge Common Front Against Japanese HDTV

91WS0106A Paris *ELECTRONIQUE ACTUALITES* in French 26 Oct 90 p 30

[Article by R.F.: "For a Common European Front in HDTV"]

[Text] In the world high definition battle, Europe must, given Japan's challenge, expand and accelerate its efforts in production equipment. In addition, closer communication must be developed in Europe between manufacturers and users of that equipment.

Those are some of the basic conclusions to emerge from an "HDTV" symposium held in Paris on 16 and 17 October. It was organized by the Institute for Economic and Social Research on Telecommunications and by Paris-Dauphine University students working toward their DESS's (Advanced Technical Studies Degree) in "telecommunications, computer communications, and TV management." Officials from RTC (Radioteknique Compelec), Sony

France, Philips Consumer Electronics, and Thomson Video Equipment, etc. participated in the event.

Common European Front

One of the conference participants—Mr. Massimo Ficchera, general assembly president of the "Vision 1250" GEIE (electronics consortium) to promote European high definition—called for a strategy involving all European players, for a "common European front" among manufacturers, radio broadcasters, and audiovisual producers. He would like to see a "voluntarist" attitude on the part of Europe.

The symposium particularly brought out the eminently strategic—and too often little understood—aspect of production equipment in the great international battle for HDTV.

In this area as in many others, Europe appears today to lag behind Japan. Mr. Ficchera, who is also one of the managers of the Italian RAI (Inter-Island Air Network), urged Thomson and Philips to "multiply their efforts to make sufficient quantities of all equipment available as soon as possible and to diversify it to meet the growing demands of production."

For his part, Mr. Daniel Le Conte des Floris (National Cinematography Center) commented that the European line in HD production was still incomplete and partly experimental.

The Japanese, more advanced in the development of equipment, also seem more commercially dynamic. Speakers pointed out that Japanese manufacturers were now actively trying to create an HD production market, notably by providing filming equipment free of charge. "They are methodically installing their machines on the sets of American producers," noted a conference participant. "We must avoid a replay of the same scenario among European producers."

This Japanese challenge in HD equipment means that European HD manufacturers—that is, essentially TVE and BTS—must redouble their efforts. That was clearly one of the lessons of the colloquium.

Redoubling Efforts

"Manufacturers must develop a line of products that meet the needs of the profession, both technically (portable CCD cameras, image-processing machines, digital tape recorders, machines for transfer to film...) and economically (affordable prices)," stressed one of the speakers.

It also became apparent during the debates that more widespread collaboration between manufacturers and users must be established, particularly to jointly develop HD equipment as well suited as possible to a demand that should really begin to surface around 1992.

France's Matra Communications Develops Growth Strategy

91WS0060C Paris ELECTRONIQUE ACTUALITES
in French 5 Oct 90 p 50

[Article by D. Levy: "Matra Communication: The American Route"]

[Text] By going the extra mile, Matra Communication is acquiring the means of attaining its objectives in company communications: to rank among the very top companies in the great European market, and to become a manufacturer that counts internationally. The firm, which gives first priority to expanding in Europe, is not for all that overlooking opportunities in the United States and southeast Asia. Example: Matra Communication's acquisition of the Intecom company, which has given it 10 percent of the American market for PABX's [Private Automatic Branch Exchange] of over 1,000 lines, and total installed equipment of a million lines there. While virtually all the firms that have ventured into the difficult American telecommunications market have met with frustration, Matra Communication is convinced it has found the right road.

Matra Communication set its medium-term market-share objectives last year. They include doubling, in 1994, the number of lines supplied on the French market—increasing it from 250,000 to 500,000 lines, or 25 percent of the market—and installing 300,000 lines, most of them in other European countries (see 22 September, 1989 ELECTRONIQUE ACTUALITES). Today, Mr. Payer, the firm's vice-president/general director, is slogging on and signing...and adding 200,000 lines in the U.S. This will bring Matra Communication's total sales to a million lines a year, for consolidated sales of over 3 billion French francs.

This year network and company-communications products and services will bring in consolidated sales of 1.3 billion (compared to 1.1 in 1989), 20 percent abroad. The firm continues to grow, delivering 400,000 lines, 300,000 of them in France. This is 19 percent of the French market (compared to 15 percent last year), a share which should exceed 20 percent in 1991, according to Mr. Payer. At the end of 1991, Matra Communication will have 2.8 million installed lines.

Priority to Europe

The company's development strategy still gives priority to Europe. Matra Communication is now in Belgium, Spain, Italy, Portugal, Norway, England, and the FRG. "Our goal is to cover all of Europe, either directly, or from France or a third country," Mr. Payer points out.

But the firm does not limit its ambitions to the Old World. It learned the lessons from the unhappy experiences of other manufacturers who tried to adapt European products to the American market, and thus focused its research on a company which had a flourishing shop already set up, technology, and a market of big customers.

Consequently, Matra Communication acquired (fully) Intecom, which markets a line of large voice-data systems in the U.S. They range from 500 to over 20,000 lines, and feature three models: Te'ari, IBX S/80, and IBX S/80+. This 700-person firm, which has 10 percent of the U.S. market for PABX's of over 1,000 lines, distributes its products directly to large accounts such as the CIA, the UN, Boeing, Coca-Cola, Exxon, and others.

Intecom will make 70 to 80 million dollars this year with several million in losses but, according to Mr. Payer, "the biggest restructuring moves have already been made, and the company hopes to return to 100 million dollars, which was its level a few years ago, and to regain its balance in 1992."

Managing Two Product Lines

The crucial question now facing Matra Communication is how to manage its line together with Intecom's. "The two systems are advanced enough to emphasize continuity in their respective markets," explains Mr. Payer, adding "the Matracom 6500's service is very good and covers all required applications. The IBX line was flawed by excessive price: We are in the midst of shifting the software to 486 microprocessors that are cheaper and more powerful than the previous computer. We will stress "vertical" applications (specific software programs), and we are writing programs shared by both lines."

What's more, Matra Communication has adopted the IPNS standard, based on the RNIS (digital integrated services network), which allows different types of PABX's to communicate. The firm also intends to introduce the standard to the USA, through Intecom.

Matracom's product strategy consists of gradually merging the two product lines into one, ranging from 4 to 8,000 lines, by applying the Matracom 6500 software program to the Matracom 4500. "This merging will be complete in 1991, as part of the RNIS," asserts Mr. Payer.

The enormous investments made in the 6500 are beginning to pay off. The number of systems installed or ordered will jump from 400 in 1989 to over 1,000 sold this year, and over 2,000 in 1991 (even though its average capacity is declining). Furthermore, AT&T is known to have chosen the 6500 to equip its big multinational accounts in France, and NTT [Nippon Telephone and Telegraph] to have selected it for Japan. "It is a good technical success, but will only become a real success if some sales firm up," says Mr. Payer.

France: Bull Announces Restructuring Plans

91WS00624 Paris *LE MONDE* in French
10 Nov 90 p 27

[Article by Francoise Vaysse: "Bull Floats a Restructuring Plan To Rebalance Its Books in 1992"; first paragraph is *LE MONDE* introduction]

[Text] The French computer manufacturer Bull, which is predicting losses of nearly 3 billion French francs [Fr] in 1990, announced cuts of 5,000 jobs between now and the end of 1991 on Thursday 8 November. Half of the jobs eliminated will be in Europe, out of total world staff of 47,332 in 1989 (9 November *LE MONDE*.) The measures, combined with others, should allow Bull to rebalance its books in 1992.

The irony of it! On the very day the Japanese company Hitachi decided to open a plant to manufacture magnetic disks and computer hardware in Orleans in 1991, Bull announced a loss of some Fr3 billion in 1990 (2.8 billion), cutbacks of 5,000 jobs (half of them in Europe, 1,100 in France proper), and the shutdown of three factories. It also announced the sale of another factory following revamping of its manufacturing equipment, and a subsidiary spin-off of one of its activities (peripherals), whose capitalization will be open to the private sector.

Bull's "transfer plan" will bring the Italian and British subsidiaries, which had remained under the supervision of the American branch (Bull HN), under Mr. Didier Ruffat's control. This will expand the operational scope of the general director of Bull International to the whole of Europe (including East Europe) except France. Conversely, Bull HN is extending its turf to include all activities of the different sections of the Far East group.

Moreover, Bull is speeding up its industrial rationalization, under the leadership of Mr. Jean-Claude Albrecht, the ICL France deserter who became head of Bull SA (France) six months ago. Bull will now have only six sites instead of 13: two technological and assembly sites in Angers and Boston, two mass-production assembly sites (micro-computers, for example) in Ville-Neuve-d'Ascq (North) and Saint-Joe (near Chicago), one site for small printers in Italy, and the Bull Peripherals plant in Belfort (to be converted to a subsidiary). Slated to be closed, then, are Chandler (80 workers) in the United States, Newhouse (300 people) in Great Britain, and manufacturing in Massy in France (about 200). Joue-les-Tours (400 workers)—which makes medium-sized computers, transferred to Angers—will be sold in 1991.

Hoping to reduce annual operating costs by 10 percent, to learn to live in an industry whose profit margins are dropping (28 February *LE MONDE*), Bull has told unions that its reorganizations will result in the loss of 5,000 jobs "between now and 31 December, 1991." Adding in the 2,500 staff cuts agreed to during the first 10 months of the year, Bull has cut personnel by 15 percent in two years: that is, the equivalent of the reductions announced by the new head of Philips in one year.

Reaching Critical Size

Moreover, the group has decided to concentrate on areas where it can reach a critical size. It will make its Bull Peripherals subsidiary (in Belfort, where 1,600 people are employed) into an "independent legal entity." Bull also intends to have its workers take over its Prologue subsidiary (applications and software).

More generally, Mr. Francis Lorentz, president of the entire Bull group, clarified his position on the European alliances and "marriages" desired by the minister under whose jurisdiction he falls, Mr. Roger Fauroux. In an interview in ECHOS, Mr. Fauroux said (19 September *LE MONDE*): "It would be in Bull's interest to seek an alliance with other European operators (...). There aren't 36 to choose from. There are two: Siemens and Olivetti." To which Mr. Lorentz replied: "The choice of collaborators and alliances cannot be limited to a particular geographical area. We have always been favorable to strengthening ties with European partners, and the current slump may be an opportunity to emphasize our solidarity and downplay our rivalries." At the same time Mr. Lorentz deemed it "unrealistic" to marry partners experiencing difficulties. Mr. Lorentz cited three areas that could "involve partners other than computer manufacturers": software engineering, data banks, and microprocessors.

Bull's "transfer plan" to stop the hemorrhaging has not overlooked the future: an important component is an 11-billion-franc four- to five-year research and development investment program, in the form of a multi-year contract like that Thomson just signed with the state for HDTV. The program will aim to do away with one of the group's major handicaps: the heterogeneity of its product line, which forces it to spend outrageous sums to bring different equipment up to date. Bull computers' "house" architecture will be integrated with the Unix standard.

Will Mr. Lorentz succeed, as he hopes, in improving his operational margin by Fr3.8 billion in two years and in balancing his books again in 1992? It is very greatly in his interest to do so, since a year from now a change in the parliamentary majority could rekindle temptations to privatize the group. And, more broadly, it may be a last-chance plan for the French computer industry. For Bull's losses have culminated this year at a level heretofore unseen: In 1982, the worst year, the company had fallen to Fr1.35 billion. But the Bull of that period in no way resembles the Bull of today, with its 8 billion in sales and its 21,864 workers (against 41 billion and 47,332 people in 1989). It ranked only 17th in the world, compared with 8th today. And the current slump has spared no one in the computer world, neither in the United States nor Europe, even though IBM has managed to recapture the lead.

France: Thomson-CSF Reduces Defense Electronics Activities

90WS0109B Paris *LE MONDE* in French
15 Dec 90 p 41

[Article by F.V.: "The Drop in Orders for 'Defense Electronics': Thomson-CSF Confirms the Layoff of Several Thousand Employees."]

[Text] Thomson-CSF confirmed on Thursday, 13 December, that 3,695 persons will leave the firm: There will be 2,997 dismissals and 698 salaried employees will "spinoff into companies to be created" in 1991, 1992 and 1993.

On 23 November last, the President of Thomson, Mr. Alain Gomez, set the tone before the financial analysts in announcing that his firm will have to reorganize to absorb a 20 percent reduction in its activity in defense electronics (*Le Monde* of 24 November). The translation into employment terms came on 13 December: Thomson-CSF rolls will be reduced by 10 percent, that is, by 3,695 persons. The technical "swarming" which will favor the rehiring of a third (which could be salaried employees of the firm) by a non-strategic activity for which a market exists—is clearly revealed in effect by the departure of the salaried employees of the firm.

Thomson painted a somber picture of defense electronics for the unions. After 15 years of growth (1970-1985), the market has stagnated for five years and is now entering a recession which should last until 1995, Thomson explains. In volume, the actual shrinkage is 5 percent per year in the United States, and 3-to-4 percent in Western Europe. Only Southeast Asia is still progressing, while the Middle East seems uncertain, according to the firm.

In France, expenditures for equipment in the defense budget have been reduced by 4 percent (still in terms of volume) and entire programs have been abandoned, like the Orchidee (*Le Monde* of 9 August). As a consequence, Thomson-CSF estimates that their business will have to diminish by more than two billion in three years, with half of that tied to the slump of Dassault aircraft business. To that, one must add the fall of the dollar, which boosts the competitiveness of American companies—notably in the Gulf—and the blocking of deliveries to Iraq, Kuwait, and Jordan, which brought on the loss of 3.5 billion French francs in outstanding orders, of which one billion was to be invoiced in 1990. Notwithstanding the success garnered in this region (three billion from 1991 to 1993), orders for the year will remain 1.5 billion below the budget.

The CFDT [French Democratic Confederation of Labor] (45 percent of the vote in labor elections) has demanded Mr. Gomez's resignation, claiming that he has betrayed the provisional work contract signed last September.

Netherlands: Philips Reorganizes Components Division

91WS0063C Paris *LE MONDE* in French
12 Nov 90 p 15

[Article by special Amsterdam correspondent Christian Chartier: "Philips Creates A Special Division for Its Integrated Circuits"]

[Text] Continuing its reorganization of its "components" division, Philips has decided to split it. Starting next year, classical semiconductor (diodes or transistors) and integrated circuit (particularly chips) operations will be combined in a new division called "semiconductors." Only so-called passive components (television picture tubes, loudspeakers, condensers, liquid-crystal screens, and magnetic equipment) will stay in the homonymous division.

The multinational seems to want to "separate the wheat from the chaff." The losses of last year and of the last few months in integrated circuits have debt-burdened the good performance of passive components, plunging the division's overall accounts into the red through a ricochet effect (an operating deficit of 375 million in 1989 and 180 million at the end of the first half of 1990.) The division's split is part of the organizational restructuring decided on in September (6 September *LE MONDE*).

A spokesman for the Eindhoven firm refused to link the "new autonomy" of integrated circuits with the rumor that Philips and the Japanese firm Matsushita may step up their collaboration in IC's. The two groups have a 35-65 percent stake in Matsushita Electronic Company (MEC: components and lighting products), created in the fifties. Now it is whispered that the Japanese manufacturer intends to take advantage of its Dutch partner's troubles to acquire a direct foothold in Europe by renting, even buying, the ultra-modern Nimegue factory.

Built three years ago at the cost of nearly 2 billion French francs, the factory is oversized now that Philips has decided to discontinue mass production of mega-chips (with storage capacity of one megabit) and abandon development of new-generation static memory chips (S-RAM).

The Nimegue factory was visited this week by the presidents of the Matsushita and MEC groups, with whom Mr. Jan Timmer spoke....

EAST-WEST RELATIONS**EC: S&T Cooperation With East European Countries Outlined**

91AN0070 Luxembourg *OFFICIAL JOURNAL OF THE EUROPEAN COMMUNITIES* in English
No C231, 17 Sep 90 pp 37-41

[Resolution published in the 'Texts Adopted by the European Parliament' section: "Relations With Third Countries, Including Eastern Europe"]

[Text]

Resolution on Scientific and Technological Cooperation Between the European Community and Other European Countries: Aspects of Cooperation With the Countries of Central and Eastern Europe

The European Parliament,

- Having regard to the framework agreements for scientific and technological cooperation and the specific agreements implementing such cooperation between the European Community and Sweden, Switzerland, Finland, Norway, Austria, and Iceland,
- Having regard to the trade and cooperation agreements between the EC and most of the countries of Central and Eastern Europe,
- Having regard to initiatives already taken by the EC in favour of Central and Eastern Europe, in particular the PHARE [Poland-Hungary: Assistance To Restructure the Economy] programme, but also the European Centre for the Development of Vocational Training and the mobility programme TEMPUS [Trans-European Mobility Scheme for University Students],
- Having regard to the creation of the European Bank for Reconstruction and Development,
- Having regard to the conclusions of the European Council in Dublin on 28 April 1990,
- Having regard to the interim report of the Committee on Energy, Research, and Technology
- A. Having regard to the serious plight of the countries of Central and Eastern Europe and the aid which the EC has already been called upon to supply,
- B. Having regard to the extremely critical situation of the economic system of the Central and Eastern European countries and having regard to the need for far-reaching, structural changes,
- C. Whereas rapid, well-balanced social and economic development of the countries of Central and Eastern Europe is essential for the success of the process of democratization in those countries and, hence, is a contributing factor towards peace in Europe,
- D. Having regard to the very serious pollution of the environment in those countries and the unmistakable effect this has on the countries of Western Europe,
- E. Having regard to the role of dependable partner which the EC will increasingly perform in the continent of Europe as a whole,
- F. Whereas the EC will therefore have to provide support, as soon as possible, for the process of change in Central and Eastern Europe in the form of economic

and political measures, not least in response to the expectations of these countries with regard to the EC,

G. Whereas legal and administrative obstacles impeding cooperation between the European Community and the countries of Central and Eastern Europe should be reduced to the absolute minimum;

H. Whereas, on the one hand, these countries must be fully capable of competing at the international level in order to reap the benefits of economic growth and, secondly, the markets of the Central and Eastern European countries afford economic prospects for European industry;

I. Whereas the efforts to support the countries of Central and Eastern Europe complement solidarity which has already been shown, internally and externally, and whereas the obligations already entered into within and outside Europe must not suffer from new obligations towards the countries of Central and Eastern Europe;

1. Welcomes the democratic developments of recent months in the countries of Central and Eastern Europe;

2. Stresses that the new political situation that has arisen is a new challenge for the European Community and that it will therefore perform a pivotal role in the continent of Europe as a whole;

3. Is thoroughly convinced that action taken by the European Community is a key factor in assisting the countries of Central and Eastern Europe along the path they have chosen towards democracy and a market economy and that here, too, the EC has a fundamental political responsibility;

4. Stresses, however, that any action taken by the European Community can only be undertaken if the present reforms of the political and economic systems of those countries are maintained and consolidated;

5. Recalls the decisive role of scientific and technological research in the economic and social development of modern (post) industrial society and therefore believes that massive support is needed for an exchange of know-how;

6. Calls for a realistic and pragmatic approach to the problems, and for a balance to be found between each country's capacity for such exchange and its actual needs;

7. Believes that in order to maintain a cohesive Community policy, Community action in favour of the countries of Central and Eastern Europe in technological research and development should be based on the same criteria for all countries involved;

Medium- to Long-Term

8. Believes that in the new political context the EC should strive towards establishing relations akin to those

with EFTA [European Free Trade Association] with the Central and Eastern European countries;

9. Calls therefore on the EC to use the principle of "mutual balance benefit" as the basis for all relations with non-Community European countries, without losing sight of the fact that aid and assistance to the countries of Central and Eastern Europe will be required temporarily for many years to come;

10. Proposes establishing two medium-term aid programmes for the countries of Central and Eastern Europe:

— "EAST" (European Assistance for Science and Technology), to assist and accelerate the changes in research structures and to consolidate scientific and technological potential;

— "GREEN" (General Research in Environment for Eastern Nations), aimed at the acquisition of know-how and scientific and technical resources as weapons in the struggle against the problems of the environment which are partly the result of energy production (this is particularly true of the use of lignite as a fuel and nuclear power stations of the Chernobyl type) and partly the result of industrial production processes;

11. Proposes that priorities under the EAST programme should include:

a. Additional training and mobility of research workers as a means of overcoming the consequences of long-term isolation, with particular reference to the creation of networks between universities, laboratories, and European Community research centres (including the Joint Research Centre) and the countries of Central and Eastern Europe; improvements in the status of researchers to keep brain-drain to a minimum; and increasing the numbers of women active in scientific and technological cooperation;

b. Financing for the contribution made by university and industrial researchers to projects already being carried out in Community universities and private and public research laboratories and industrial research laboratories;

c. Identifying and implementing precisely defined strategic research projects;

d. Approving common industrial standards;

e. Fostering cooperation between businesses in East and West, e.g., by organizing seminars, works visits and traineeships, management training, and the setting up of databases;

12. Proposes that the following should be essential features of the GREEN programme:

- a. Environmental technology is developed for cleaner production processes, and a common set of rules for environmental impact assessment is drawn up;
- b. Consistent and generally applicable environment standards are developed and introduced; and
- c. Facilities for the supervision and management of air, soil, and water are developed (e.g., satellite monitoring or air pollution detectors);
- d. Instruments for environmental management are devised by businesses and governments specifically for the Eastern European situation;
- e. A joint programme is drawn up on energy yield in industrial production cycles and in agriculture;

13. Believes that the EAST and GREEN programmes should follow on directly from the framework programme for research and technological development (R and TD) and be integrated in the fourth framework programme, with a further adequate budgetary appropriation being allocated;

14. Proposes that in the framework of the EAST and GREEN programmes—which should have a maximum life of eight years—the Community should make available for the first four years an extraordinary financial contribution equivalent to 10 percent of appropriations of the framework programme for R and TD, with the proviso that this percentage is gradually diminished in the following years;

15. Invites the Commission to submit to the European Parliament before the end of 1990 specific proposals which can be rapidly implemented on the basis of a thorough survey and analysis of the problems and requirements, drawn up in cooperation with the responsible authorities and scientists in each country in question;

16. Believes that the updating of the financial perspectives should be fully utilized so that the budget reflects the consequences of the measures in favour of Central and Eastern Europe;

17. Believes that, with a view to the creation of a European Economic Space and in the light of existing agreements on scientific and technical cooperation, the EFTA countries should participate, e.g., in the form of substantial funding, in the Community action in favour of the countries of Central and Eastern Europe;

Short Term

18. Believes that, given the seriousness of the political and economic situation, there is a need for emergency aid of limited duration from the EC to bridge the period until implementation of the EAST and GREEN programmes;

19. Proposes that this emergency aid be granted under the title "LET'S GO EAST" (Let European Technicians and Scientists GO EAST) and should include the following action:

- a. Sending teams of scientists and experts from the European Community to the countries in question for three to six months to:
 - Assist local research teams;
 - Establish networks of research workers and academics from Eastern and Western Europe, in particular through university-industry joint research projects and scientist-exchange schemes;
 - Assist in securing the most accurate and specific assessment possible of the capacities of these countries (having regard in particular to the quality of the research conducted and its industrial and commercial applications), and their science and technology needs;
 - To help them in identifying as rapidly as possible their sectoral policy priorities, in particular in the areas of telecommunications and technologies for improving energy productivity;
- b. Financial assistance for participation by scientists from Central and Eastern European countries in colloquia, congresses, and seminars organized by the EC;
- c. Providing scientific and technical equipment (new and second-hand) to meet the most urgent requirements;
- 20. Calls on the Commission to finance this emergency aid programme in particular through the funds available for the PHARE programme;
- 21. Believes furthermore that the programmes on human resources and mobility (SCIENCE, SPES, Major Installations) in the framework programme for R and TD can be opened up to Central and Eastern European countries;
- 22. Expresses its satisfaction following the narrowing-down of the categories of advanced-technology products subjected to COCOM [Coordinating Committee for Export Control] rules, and hopes that this trend will continue, in particular in relation to computers and telecommunications, to enable the economic structures of the Eastern European countries to be rapidly modernized by facilitating technology transfers;
- 23. Believes that there is also a need in this context to verify the means and rate at which scientific and technological capacity linked to military production activities can be converted or geared to civil purposes;
- 24. Believes that a network should be created to convert military industries to civil purposes;

25. Calls on the interministerial EUREKA [European Research Coordination Agency] conference to lay down, in the near future, the conditions for admitting the countries of Central and Eastern Europe so that businesses in such countries can be involved in the various EUREKA projects subject to detailed regulations being laid down in future;

26. Calls on the Council to take steps in the framework of the ministerial meetings between the European Community and the EFTA countries to ensure forthwith that all partners are involved in the efforts for scientific and technical aid to Central and Eastern Europe;

27. Instructs its President to forward this resolution to the Commission, the Council, the Economic and Social Committee, UNICE [Union of Industrial and Employers' Confederations of Europe], the ETUC [European Trade Union Congress], and the principal laboratories and research centres of the Community, and to the parliaments and governments of the countries of Central and Eastern Europe.

France: Alcatel To Provide Fiber-Optic Links to USSR

90WS0109C Paris AFP SCIENCES in French
6 Dec 90 pp 21, 22

[Article in "Telecommunications" column: "Telecommunications/Electro-optics/France/USSR Contract Between Alcatel and the USSR For a Fiber-Optic Link in Siberia"]

[Text] Paris - Alcatel CIT (CGE) signed a contract concerning the furnishing of a 250-km fiber-optic link in Siberia with the president of the center for foreign commerce of the Communications Ministry of the USSR, Mr. Loynikov. The signing ceremony brought to the headquarters of Alcatel CIT the Ambassador of the USSR to France, Mr. Yuri Doubinin, the Deputy Premier and Minister of the USSR, Mr. Koblov and the President of CGE, Mr. Pierre Suard.

This link, costing 100 million francs, will be built between the cities of Irkutsk and Ulan-Ude, crossing Lake Baikal, with some 50 km of the line being submerged. It will constitute the first step of a future optical link planned by the USSR and dubbed the TSL (Trans-Soviet Line), 10,000 km. long, which will connect the Pacific coast to the European continent. It will be operated by a consortium of Soviet, European and American partners.

For Mr. Loynikov, the contract represents "a success and a great step towards cooperation in this field between French industry and the Government of the USSR." Mr. Koblov, for his part, let it be understood that the Soviet Government wishes "to go farther" in this cooperation with France "on this long link."

Bull-Videoton Joint Venture; Progress Report

91WS0104a Budapest COMPUTERWORLD/
SZAMITASTECHNIKA in Hungarian 22 Nov 90 p 3

[Article by Janos Andor Vertes: "French Director of MFI; And Not A Word About the Videoton Crisis"]

[Text] The stand of Videoton Computer glowed in blue and green colors. In the meantime the same clothes were put on by items from Zenith laptops to the printers bearing the original French trademark. It is as if the multinational Bull AG was gracing the Compfair. And Videoton nowhere in sight.

When we asked the director of VT-Computer about the products displayed, Janos Szecsenyi graciously introduced the French director of Hungarian-French Informatics Ltd., Mr. Yves Thorn, and let him do the talking. The director of the Videoton-Bull joint venture looked around and asked:

"What are you interested in? The full scale of Bull products is here; for lack of space only the DPS [Data Processing System] 7000 is not being shown at the fair, but it has already reached the Videoton Computer enterprise. In addition to the computers we are showing applications possibilities, among which I especially call attention to banking techniques. Our automatic devices already recognize Hungarian money too. You see how nicely things are progressing?"

Vertes: Really? I just heard that sooner or later the French would lose patience if the property agency is so slow to increase the value of the Videoton undertakings being built into the MFI [Hungarian-French Informatics Ltd.]—Walton, Videoton Computer, and VT-Soft Ltd.

Thorn: The three Videoton firms, Bull and the MFI have signed the necessary contracts, and the papers are now making the official rounds. This is not a question of patience. Our job is to see the MFI on the Hungarian and foreign markets as soon as possible, and in this we may be impatient. But I believe that we have no cause for impatience here, look around—we are here.

Vertes: It is Bull that is here. Where is Videoton? In addition to marketing cooperation, how are contacts developing in production?

Thorn: We already have finished plans in regard to production as well. Talks are now taking place to get this started. We will be commissioned by the Bull-Zenith firm to manufacture printers, monitors, and PC's, in accordance with the contract. But this does not start with production but rather with the transfer of technology and the training of the people. And we must begin the training with language instruction, because few people in Hungary speak French, and we cannot really build on English.

Vertes: The crisis of Videoton does not affect you?

Thorn: The Hungarian-French Informatics corporation born of the Bull-Videoton marriage is not Bull, and it is not Videoton. The momentary situation of the parents differs, and for this reason, naturally, Bull is giving all possible aid to get its chief Hungarian partner on its feet. But this does not affect the progress of the MFI. In addition to importing computers and training experts the greatest aid may be the transfer of the management methods used by us. At present four leading French experts are living in Hungary and participating in the direction of the MFI. But every week Bull experts are arriving to join in the work temporarily. Today the value of Videoton is the workforce; we are trying to save this for the MFI. But I definitely ask you not to confuse the MFI, being built and developing, with Videoton. The crisis, the privatization problems, are the government's business. I would prefer to talk about the strategy of the MFI, if you are interested. The pyramid is complete for us. The first level is the PC, the second is the mini, the third is the mainframe. But look around and you will see that we are offering everything, we cannot talk about a crisis. I recommend looking around because a hospital delegation, representing a big customer, has just arrived. Excuse me....

VT-Soft; And Not a Word About the MFI

The stand of Videoton Software Ltd. has its back to MFI-VT-Computer, and the Bull colors are not flying over it. Shrugging their shoulders the exhibitors say, It does not affect us much, VT-Soft was independent, and it remains independent, although the owner has changed—at least in part, for in addition to Videoton a German firm is a founder—but we don't really notice.

VT-Soft is one of those few units of the old large enterprise which is profitable even today; it sells its products at the Compfair with a high degree of independence and with no little market success. It is difficult to decide whether Data-Ease, as an independent software, has fulfilled the hopes attached to it. In any case it was enough to give a 10 percent discount at the fair to get people to buy it.

But our brief sample shows that the demand is for concrete database processing. The company may live for a long time on the social insurance program package, and its editing system is being used in more and more places too. The new thing at the Compfair was an American image processing system, Discorp, which prepares compacted digital versions of images stored on paper or film. With it we can perform various operations (enlargement, reduction, rotation, and inversion) in addition to storage and retrieval. The image can be part of a database where the most varied relationships between textual and pictorial information can be imagined.

Germany, Czechoslovakia Sign Science Cooperation Agreement

91MI0079 Bonn WISSENSCHAFT WIRTSCHAFT POLITIK in German 14 Nov 90 p 6

[Text] "Reorienting the scientific and research systems in the five new German Lands is one of the most urgent tasks for the immediate future," said Federal Research Minister Dr. Heinz Riesenhuber in Prague at the signing of the scientific and technical cooperation agreement between the Federal Republic of Germany and Czechoslovakia. The minister went on to say that if modern, competitive research structures and economies are to be achieved there, cooperation with central and eastern Europe in research, science, and technology must not be forgotten.

Following the signing in 1986 of a comprehensive agreement with the USSR on science and technology, the scientific and technical cooperation between the Federal Republic of Germany and the states of central and eastern Europe has been systematically built up (Hungary 1987, Bulgaria 1988, Poland 1989). Similar agreements were reached with the governments of Romania and Yugoslavia in the 1970's. With the agreement signed in early November, Dr. Riesenhuber noted, "the final link in the chain of cooperation partners has been closed."

The goal of the agreements is achieving cooperation between German and Czechoslovak scientists in concrete research projects, especially in such areas as scientific exchanges, joint use of technical establishments, and support of joint and task-sharing research and development activities. This includes sponsoring mutual exchanges of technical information and organizing seminars. Parallel to the agreement, an implementation program comes into effect that includes 30 research projects already set up between the partners. The areas of cooperation range from reactor safety research through agriculture, chemistry, carbon research, social sciences, and medical research to the geosciences. According to the research minister, cooperation in the field of continental deep drilling is currently attracting considerable interest. The recently inaugurated continental deep drilling will be carried out on the western edge of the Bohemian massif, the largest deposit of crystalline rock in central Europe. The main part of this geological mass lies in Czechoslovakia. In order to understand the regional correlations of this segment of the earth's crust, Dr. Riesenhuber stated in Prague, "it is necessary to have information from Czechoslovakia—information that it has made great efforts to obtain in recent years, through geoscientific studies of its territory."

German Software Firm Active in Hungary

91WS0065A Budapest COMPUTERWORLD/ SZAMITASTECHNIKA in Hungarian 27 Sep 90 p 13

[Article by Kalman Fejes: "Fifteen-Hundred Software Items From BSP"]

[Text] The domestic software market was enriched with new color beginning in June. A famous Western wholesaler appeared with its products, the German BSP, which earlier formed mixed enterprises in Austria and Czechoslovakia as well. Now its expansion has reached Hungary.

We asked Janos Racz, the managing director of BSP Hungary, which operates as a limited liability company, about the business policy and ideas of his firm.

Fejes: Since we are talking about wholesale software surely one of the most important tasks, after overcoming the difficulties of getting started, must be building up a national chain of shops. With whom are you talking and what results can you report?

Racz: First let me say that our goal, before all, is to develop a uniform price structure fitting Hungarian market conditions, and to undertake and keep to delivery time limits significantly shorter than customary. This will be greatly aided by a consignment warehouse which is now being filled. Naturally our partners also can exploit this advantage. We can ship immediately from our warehouse; items not stored there but existing in the German BSP warehouse can be delivered in five to 10 days; otherwise we will undertake a 20-25 day delivery time. Returning to the original question, our talks with a number of dealers are well advanced. Some of these—not in order of importance—are Softinvest, Novotrade, Cedrus, the KFKI [Central Physics Research Institute], Szamalk, the SZKI [Computer Technology Research Institute and Innovation Center], the SZUV [Computer Technology and Management Organization Enterprise], Videoton, etc., to mention only the largest.

Fejes: What sort of reception did you get, did they not see a rival in you?

Racz: Our experiences are good, the reception was favorable, for if we offer lower acquisition prices that is an advantage for them as well. At most we may represent competition to those firms which order by set consignments.

Fejes: Two things were striking when paging through your catalog. One was that among the 1,500 products of 120 manufacturers there are some which have exclusive distributors here in Hungary. The other was that compared to the UNIX and XENIX offerings, strong by domestic standards, and the DOS [disk operating system] dumping the CAD/CAM [computer-aided design and manufacturing] assortment is modest. Have you contacted these distributors and can one expect an expansion of the offerings in these and other directions?

Racz: As far as I know, contrary to what is reported, only a few have exclusive rights, but if some firm does have them naturally we will honor them. As for the assortment, our present catalog contains only the German BSP offerings.

We also recognize our deficiencies. But since our acquisition sources are not tied down I can say with assurance that in the future we will get software not yet in our catalog which the market requires. It is worthy of note that we are offering a broad and favorable assortment of UNIX and XENIX systems, we have a good supply of DTP and Macintosh programs, and we even offer professional books.

Fejes: Your catalog contains the suggested final user price. How should this be interpreted?

Racz: This means that if we were to open a shop then we would consider this retail price realistic. This is only a suggestion from which the dealers can deviate up or down according to their judgment. We offer discounts compared to this price—depending on the quantity.

Fejes: Since we are talking about software, the question of product support is very important. How will you try to organize this for 1,500 products?

Racz: We could begin our work under favorable conditions because the German party made its support base available to us, and we are trying to exploit it to the maximum.

Fejes: In my view, in addition to the advantages of this, it is very expensive and getting started is difficult. Will you try other solutions as well?

Racz: BSP Ltd. is undertaking this sort of extra cost in the interest of raising the level of service; the difficulty is caused only by the customary infrastructural problems. At present our corporation offers support for the products only to a limited degree, because we want to solve this basically in conjunction with the dealer network. We sign a cooperation contract with our dealers in which we expect that the final users will fill out and send back a registration card so that the owners of legal software will truly enjoy the advantages of cultured software supply. We regard this as a matter of prestige. We will immediately replace a faulty product; we will call the attention of the users to new versions and updates.

With our larger dealers we sign a contract in which we pledge to pass on to them all the support we get. By this we mean the following services: passing on free or cheap demo versions and brochures and handing on information quickly. If the dealers undertake to give professional advice for certain products then this strengthens their prestige too.

Fejes: How will you handle problems for which the user gets no answer here at home?

Racz: The German BSP background is always available, and it can be accessed by electronic mail, telefax or telephone. In a given case one can even go beyond this and contact the manufacturer directly; this is expensive but in case of need we will assume this cost in the interest of the final user. But probably this will not be typical.

Fejes: Will you be able to provide Hungarian documentation for your products?

Racz: This is basically a business question. Most products will not have a Hungarian translation at the same level as the original because we are a relatively small market. But in the case of programs which can be sold in larger numbers we feel that a Hungarian language abstract of the documentation is certainly useful and necessary.

Fejes: There will also be export in the name of the company. What sort of export activity do you imagine?

Racz: I would answer with the words of Mr. Thomas Krug, the German director-owner of BSP: "The mixed enterprise in Hungary has special significance for us because Hungary has attained significant advantages in the area of computer technology—primarily professional. It has won a good name for itself with its programmers. The experts react with extraordinary sensitivity to new products appearing in the world or to new versions of old products."

Software developers who find it difficult to get on the foreign market have approached us and we—exploiting the possibilities offered by the German BSP—have performed tests on the program abroad. If the product is worthy of it it can be included in the BSP offering. At present such software is being studied. We have independent foreign trade rights so we can export independently as well.

Fejes: What income do you count on this year?

Racz: We are just getting started and do not yet know precisely the absorbing capacity of the market. At present we can still talk only of individual sales. In any case we count on a turnover of 15-20 million by the end of the year.

Czech-German Joint Venture in Telecommunications

91AN0090 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 15 Oct 90 p 1

[Article: "Tesla and Philips—Partners in Telecommunications"]

[Text] Prague-based Tesla and Germany's Philips Kommunikations Industrie have reached an agreement in principle to form a joint venture covering the development and production of transmission equipment which will be used to upgrade the public telecommunications network in Czechoslovakia.

The project will focus mainly on digital signal transmission equipment, including Pulse Code Modulation systems, multiplex equipment, and line terminal equipment for transmission at speeds of up to 140 Mbit/s. The latter can be used with fibre-optic cable.

Philips says it hopes to conclude the agreement before the end of this year so that deliveries of equipment to the Czechoslovakian PTT can begin as soon as possible.

In July, Tesla Karlin and Siemens formed a partnership to manufacture EWSD digital switches in Czechoslovakia which will be used to modernise and rebuild the country's telecommunications network.

Italian Firm To Participate in Soviet Space Experiments

91MI0051 Rome SPAZIO INFORMAZIONI in Italian 17-24 Oct 90 pp 4-5

[Text] Kayser Italia of Leghorn is currently working on two contracts awarded by ESA's (European Space Agency) ESTEC [European Space Research and Technology Center] center. The contracts involve the development of sophisticated electronic equipment for experiments to be carried on board Soviet satellites. Last September, in fact, a meeting took place—partly at the Soviet Institute of Biology's (IBMP) laboratories and partly in Kayser's Moscow offices—between a Soviet and an ESA delegation to define the scientific and technical aspects of the Bion 10 mission, which is scheduled for launching in 1992. Kayser Italia's managing director, Engineer Valfredo Zolesi, also attended the meeting.

Both of the two contracts awarded to the Leghorn-based company involve biology experiments. The first, called Biopan, focuses on the development of a container of biological samples to be installed outside the Soviet satellite. Once the satellite is in orbit the container will be opened to expose the samples and will be closed prior to the capsule's reentry into the atmosphere. Kayser Italia's responsibility under this project will be the development of the data acquisition system. The second experiment is called Biobox and consists of an incubator containing biological samples to be installed on board a Soviet Photon satellite. The contract awarded to Kayser Italia involves the "phase B" of the entire electronic feed, control, monitoring, and data acquisition system as well as the satellite's electrical interfaces. A Soviet delegation is expected to visit Kayser Italia's Leghorn headquarters in spring 1991.

Italy: Civil Aviation Joint Ventures Reported

Soviet Union

91MI0042A Rome AIR PRESS in Italian 3 Oct 90 p 2290

[Text] Buran, the Italian-Soviet company for the design and development of radar systems for civil air traffic control in the Soviet Union, was presented at the aeronautics show in Moscow. Selenia will hold a 49 percent share in Buran, while the remaining 51 percent will be held by three Soviet organizations: the Institute of Air Traffic Design and Scientific Research (NETZ) of the Ministry of Civil Aviation, the Leningrad Institute for

Scientific Research (NIIRA), and Proton, an industrial manufacturing company in Moscow, each with a 17 percent share. Buran will have an initial capital of \$10 million and will design and supply 41 air traffic control radar systems for the entire Soviet territory by 2015. Their monetary value will be approximately \$2.4 billion. The managing director of Selenia, Enrico Gimelli, and the director of the Soviet Institute for Air Traffic Control, Tiziana Anodina, took part in the presentation.

Spain

*91MI0042B Rome INTERAMA in Italian
28 Sep 90 p 699*

[Text] Elettronica S.p.A.[Inc.] and the Spanish firm Inisel signed an important industrial collaboration agreement on 21 September. Inisel will take a 51 percent share in Elt S.A., a subsidiary of Elettronica S.p.A. in Spain, which is already active on the Spanish market in the field

of electronics for naval and aircraft defense applications. Inisel, of the state-owned INI group (in some ways the equivalent of the Italian IRI [Institute for the Reconstruction of Industry], with 2,600 employees and a turnover of 24 billion pesetas in 1989, is the leading Spanish company in the defense electronics sector. Elettronica S.p.A., a European leader in the area of high technology defense electronics, which also has expertise in the civil sector, is held by Finmeccanica (47 percent) of the IRI group while Engineer Filippo Fratlocchi retains a majority shareholding of 53 percent.

Under the agreement, Elt S.A.'s opportunities of penetrating the Spanish market will be considerably increased and the already solid ties of collaboration between the two countries in the defense sector will be reinforced. Equipment and systems developed by Elettronica S.p.A. are in fact currently used by the Spanish Armed Forces.

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11 Feb. 1991